

acid is operably linked to a promoter comprising at least one of the polynucleotide sequences of SEQ ID NO: 26 and SEQ ID NO: 27.

15. A vaccine comprising a recombinant MVA vector according to claim **9** and a pharmaceutically acceptable carrier.

16. A method for treating a persistent Human Papilloma Virus (HPV) infection, vulvar intraepithelial neoplasia (VIN), cervical intraepithelial neoplasia (CIN), vaginal intraepithelial neoplasia (VaIN), anal intraepithelial neoplasia (AIN), cervical cancer (such as cervical squamous cell carcinoma (SCC)), oropharyngeal cancer, penile cancer, vaginal cancer or anal cancer in a subject in need thereof, the method comprising administering to the subject a vector, vaccine, or vaccine combination according to claim **1**.

17. A method for inducing an immune response against Human Papilloma Virus (HPV) in a subject in need thereof, the method comprising:

- (a) administering to the subject a first vaccine comprising an immunologically effective amount of either
 - (i) a recombinant adenovirus vector comprising a first nucleic acid encoding a first polypeptide comprising the amino acid sequence of SEQ ID NO:1 and a second nucleic acid encoding a second polypeptide comprising SEQ ID NO: 20, or
 - (ii) a first recombinant adenovirus vector comprising a first nucleic acid encoding a first polypeptide comprising the amino acid sequence of SEQ ID NO:1 and a second recombinant adenovirus vector comprising a second nucleic acid

encoding a second polypeptide comprising the amino acid sequence of SEQ ID NO: 20, together with a pharmaceutically acceptable carrier; and

- (b) administering to the subject a second vaccine comprising an immunologically effective amount of a recombinant Modified Vaccinia Ankara (MVA) vector comprising a third nucleic acid encoding a third polypeptide comprising the amino acid sequence of SEQ ID NO:1 and a fourth nucleic acid encoding a fourth polypeptide comprising the amino acid sequence of SEQ ID NO: 20, together with a pharmaceutically acceptable carrier;

wherein the first vaccine is administered to the subject as a priming vaccine and the second vaccine is administered to the subject as a boosting vaccine.

18. The method according to claim **17**, wherein the first polypeptide and the third polypeptide each further comprise the amino acid sequence of SEQ ID NO: 28 and wherein the second polypeptide and the fourth polypeptide each further comprise the amino acid sequence of SEQ ID NO: 31.

19. The method according to claim **17**, wherein the first vaccine comprises the first recombinant adenovirus vector comprising the first nucleic acid encoding the first polypeptide comprising the amino acid sequence of SEQ ID NO: 1 or SEQ ID NO: 3 and the second recombinant adenovirus vector comprising the second nucleic acid encoding the second polypeptide comprising the amino acid sequence of SEQ ID NO: 20 or SEQ ID NO: 22.

* * * * *